

R E M A R K S

Reconsideration of this application, as amended, is respectfully requested.

The Examiner is thanked for conducting a telephone interview on August 29, 2006, to discuss the claimed invention and the cited references, and, in particular, a problem in the interpretation of element 77 of USP 5,960,694.

THE CLAIMS

Claim 1 has been amended to recite that a casing that houses the hydraulic actuator, the electric motor, the hydraulic pump and the operating condition detector, as well as to make a minor change at line 4 thereof to overcome the Examiner's objection.

In addition, claims 10 and 11 have been amended to better accord with amended independent claim 1.

Still further, claim 12 has been added based on amended independent claim 1 and to positively recite an operating oil tank, which is also housed in the casing.

No new matter has been added, and it is respectfully requested that the amendments to the claims and the addition of claim 12 be approved and entered.

THE PRIOR ART REJECTION

Claims 1-4 were rejected under 35 USC 103 as being obvious in view of the combination of USP 6,276,768 ("Miller") and USP 6,126,401 ("Latham"), and claims 5-8 and 10 were rejected under 35 USC 103 as being obvious in view of the combination of Miller, Latham and USP 5,960,694 ("Thomas et al"). These rejections, however, are respectfully traversed with respect to the claims as amended hereinabove.

According to the claimed present invention, when a hydraulic actuator is extended, the inflow of oil into and the outflow of oil from the actuator literally become equal. For this reason, it is necessary to make cross-sectional area of pressure chambers at expanding and contracting sides of the actuator equal. This structure enables a reduction in the total oil quantity required for driving the actuator, leading to a smaller device which can be housed in a casing and connected to external parts only with wires without hydraulic oil pipes, thereby achieving greater reliability.

The Examiner contends on page 2 of the Office Action that Miller discloses a structure in which the inflow of oil into the actuator (364, 366) is equal to the outflow to allow the actuator (364, 366) to operate in both a direction to increase and decrease the tension on the belt 238. It is respectfully pointed

out, however, that Miller does not disclose an inflow and an outflow of the actuator being equal. By contrast, Fig. 4 of Miller shows that cross-sectional areas of the head side and bottom side of the actuator are not equal, and, therefore, the inflow and the outflow are not equal. In fact, it is respectfully pointed out that the Examiner has cited Latham for the disclosure of these features of the present invention.

According to the present as recited in amended independent claim 1, a casing is provided to house the hydraulic actuator, the electric motor, the hydraulic pump and the operating condition detector. And according to the present invention as recited in new independent claim 12, the crawler track tension adjusting device comprises an operating oil tank and the hydraulic actuator, the electric motor, the operating oil tank, the hydraulic pump and the operating condition detector are housed in a casing.

With this structure, a track is provided with tension with a hydraulic actuator, and a hydraulic circuit of the tension providing mechanism is housed in a casing (i.e., in the track frame), whereby a structure without a hydraulic pipe extended therefrom is provided. Thus, the present invention can avoid failure due to a pipe fracture, which occurs frequently when hydraulic piping is used between a part of a suspension (such as

a track frame) and a vehicle body, especially where crawler units at and around the track frame are used in a harsh environment full of earth and sand or dust. It is respectfully submitted that none of the cited references disclose, teach or suggest the pipe-less structure of the claimed present invention.

Indeed, the Examiner has cited Thomas et al with respect to a casing (as recited in claim 10). It is respectfully pointed out, however, that element 77 of Thomas et al, which the Examiner has cited as corresponding to a casing, is actually a dashed line indicating a signal.

In view of the foregoing, it is respectfully submitted that the present invention as recited in amended independent claim 1 and new independent claim 12, as well as claims 2-11 depending from claim 1, clearly patentably distinguishes over Miller, Latham and Thomas et al taken singly or in combination, under 35 USC 102 as well as under 35 USC 103.

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Entry of this Amendment, allowance of the claims and the passing of this application to issue are respectfully solicited.

If the Examiner has any comments, questions, objections or recommendations, the Examiner is invited to telephone the undersigned at the telephone number given below for prompt action.

Respectfully submitted,

/Douglas Holtz/

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